Economic Commission for Europe's Environment and Human Settlements Division

Pollution does not respect international borders anywhere, but in Europe, with its heavy industrialization and small nations, this is particularly evident. By the 1970s, it had become apparent that air pollution from other nations was contributing to the acidification of lakes in Sweden and the deterioration of statues and monuments in countries such as Germany and Austria. A 1986 industrial accident along the Rhine River in Switzerland killed thousands of fish in France and Germany, and further galvanized the European community to fight transboundary pollution.

Today, Europe is a global leader and innovator in international laws aimed at reducing the flow of pollution across borders, and many of those laws are developed and implemented under the auspices of the United Nations Economic Commission for Europe (ECE). Despite its name, the commission counts not only European nations such as Russia, France, and Greece among its 55 members, but also the United States and Canada, as well as Israel and Armenia. Thus, the ECE formulates treaties that affect almost the entire Northern Hemisphere and that are often emulated in other parts of the world. Information about the ECE's work to protect the environment is available on its Environment and Human Settlements Division Web site, located at **http://www.unece.org/env_h.htm**.

So far, this ECE division has drafted conventions to reduce the transboundary effects of air pollution, water pollution, and industrial accidents, as well as protocols that guide countries in assessing environmental problems and informing their neighbors about them. The division also provides guidance on housing, urban development, and land administration, and makes recommendations to member countries on human settlement policies and strategies. Information on division treaties, including their full texts and ratification status, can be found under the Environmental Policy link on the home page.

The oldest of these agreements, the 1979 Convention on Long-Range Transboundary Air Pollution, was one of the first international conventions to address environmental issues. Since then, it has been expanded through eight protocols, and it continues to be lauded as a pioneering accord. At the end of 1999, the Protocol to Abate Acidification, Eutrophication, and Ground-Level Ozone was added to the convention, marking the first time that all three of these problems were addressed together in an international agreement. The protocol is also unique in its extensive use of modeling to find the most cost-effective ways to protect ecosystems.

The division provides an extensive Internet site about the 1979 convention and its protocols at **http://www.unece.org/env/lrtap/**. Here, visitors can read the text and ratification status of the eight protocols, view brochures that explain them in plain language, and retrieve air pollutant emissions data for each of the countries that are parties to the agreement. According to data on the site, the convention has succeeded in reducing sulfur emissions by one-half in Europe (compared to 1980) and has prevented over $9 billion worth of damage to buildings caused by air pollution.

Part of this success is due to the newly forged cooperation between eastern and western countries in Europe. The ECE has been instrumental in helping many eastern countries meet environmental goals while making the transition to a market-based economy. For example, the Environment and Human Settlements Division has sent experts to countries such as Ukraine to evaluate their environmental programs and help make improvements. Details of these efforts including full reports on some countries are also available on the division's site.
–Christopher G. Reuther

The Beat

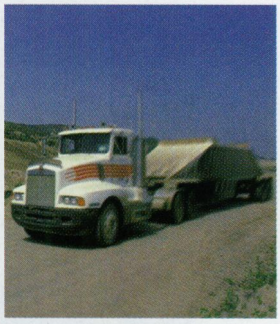
Organic Power

A demonstration project conducted by the USDA Agricultural Research Service has found that diesel vehicles such as trucks, tractors, and buses can run more cleanly if organically based biodiesel is mixed with the regular diesel fuel. "B20" fuel (which is 20% biodiesel, derived from soy or other seed oils or animal fat) requires no engine modifications in order for it to be used.

Alan Weber, a representative of the National Biodiesel Board, says that credits for biodiesel fuel use are available to federal and state agencies and public utilities in large metropolitan areas under the 1992 National Energy Policy Act. One of the goals of the USDA project, part of a federal initiative to reduce dependence on petroleum-based fuels and build new markets for U.S. crops, is to increase the federal government's use of bio-based fuel by 10% over the next five years.

Country Roads Not Always Cleaner

A new method of measuring road dust developed by researchers at Washington University's Air Quality Laboratory in St. Louis reveals that the average rural vehicle creates over six times more particulate matter (PM) than the average urban vehicle. The acidity and high volume of PM emissions, along with their heavy metal composition, may lead to such health effects as upper respiratory illnesses, cardiovascular disease, and cancer.



The new method measures the net sum of PM emissions created by a vehicle by several means over each mile it travels, focusing on particles smaller than 2.5 microns in diameter. Using this method, regulatory and government agencies can more accurately measure particulate emissions and then strategize to reduce them.

Texans Bogged in Smog

Houston, Texas, must take strong measures to reduce its air pollution—cited as the worst in the United States—in order to comply with federal ozone standards, states a 23 December 1999 article in the *Fort Worth Star-Telegram*. The article reports that 75 measures, including restricting driving on every fourth day and reducing the highway speed limit to 55 miles per hour, were proposed during a December meeting of Texas environmental officials.

To comply with federal law, Houston must reduce vehicle miles traveled by 25% and industrial nitrogen oxide emissions by 90%, but petrochemical industry emissions, along with those from automobiles and port traffic, are making this difficult. Texas commissioner Ralph Marquez said that even the measures proposed may not be enough to bring Houston in line with the Clean Air Act, which requires the city to meet federal ozone standards by 2007.